Chapter 9 Windows CE 6.0 Developer's Guide

9.1 Creating Windows CE 6.0 Development Environment

Note: The following steps are based on software and Microsoft Windows 7 System (Ultimate Edition), other Windows systems tested. Recommended to install the software onto the hard disk installation (ISO CD image file can use the virtual drive)

Windows CE 6.0 installation process is very complicate and requires professional installation (otherwise will be very slow time) we recommend that users, especially beginners, sure to follow the installation steps described in our development environment.

Here we use the key the development of master configuration, for reference:

CPU: Intel Core Duo E8400

Memory: DDR2 4GB

Hard disk space: 500GB

Install the required software listed below (the company does not offer Windows Embedded 6.0 CE 6 installation files, the user can go to the Microsoft website to download a trial version of it):

- Visual Studio 2005

Download:

http://download.microsoft.com/download/e/1/4/e1405d9e-47e3-404c-8b09-489437b27

fb0/En_vs_2005_Pro_90_Trial.img

- Visual Studio 2005 Service Pack 1(file name: VS80sp1-KB926601-X86-ENU.exe)

Download:

http://www.microsoft.com/downloads/details.aspx?familyid=bb4a75ab-e2d4-4c96-b39

d-37baf6b5b1dc&displaylang=en

- Visual Studio 2005 Service Pack 1 Update for Windows Vista

(File name: VS80sp1-KB971090-X86-INTL.exe)

Download:

http://www.microsoft.com/downloads/details.aspx?familyid=7C8729DC-06A2-4538-

A90D-FF9464DC0197&displaylang=en

- Windows Embedded CE 6.0

Beta Download:

http://www.microsoft.com/downloads/details.aspx?displaylang=en&FamilyID=7e2868

47-6e06-4a0c-8cac-ca7d4c09cb56

- Windows Embedded CE 6.0 Platform Builder Service Pack 1

Download:

http://www.microsoft.com/downloads/details.aspx?FamilyId=BF0DC0E3-8575-4860-

A8E3-290ADF242678&displaylang=en

- Windows Embedded CE 6.0 R2

Download:

http://www.microsoft.com/downloads/details.aspx?FamilyId=F41FC7C1-F0F4-4FD6-

9366-B61E0AB59565&displaylang=en

- Windows Embedded CE 6.0 R3

Download:

http://www.microsoft.com/downloads/details.aspx?FamilyID=BC247D88-DDB6-4D4

A-A595-8EEE3556FE46&displaylang=ja&displaylang=en

- Tencent QQ (third-party software)

Download:

http://www.microsoft.com/downloads/details.aspx?FamilyID=527042f7-bb5b-4831-a6

ad-5081808824ec&displaylang=en

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- WesttekFileViewers6.exe (office document viewer, third-party software)

Download:

http://www.microsoft.com/downloads/details.aspx?FamilyID=d2fd14eb-7d5c-428b-95
1c-343f910047c1&displaylang=en

The basic order of the above list also shows the software installation sequence: install Visual Studio 2005 and patches, Windows CE 6.0 and then install the patch, and finally install the third-party software.

Note: Windows CE 6.0 Platform Builder and used in previous Windows CE 5.0/4.2 are different, it is dependent software development platform, but as plug-in to VS2005 installation, so you must first install VS2005, after compile all the kernel configuration for such development are based on the VS2005.

Following is a detailed of the steps.

9.1.1 Installing Visual Studio 2005 and patch

Step 1: Open Visual Studio 2005 folder, find the setup.exe, and double click to start the installation.
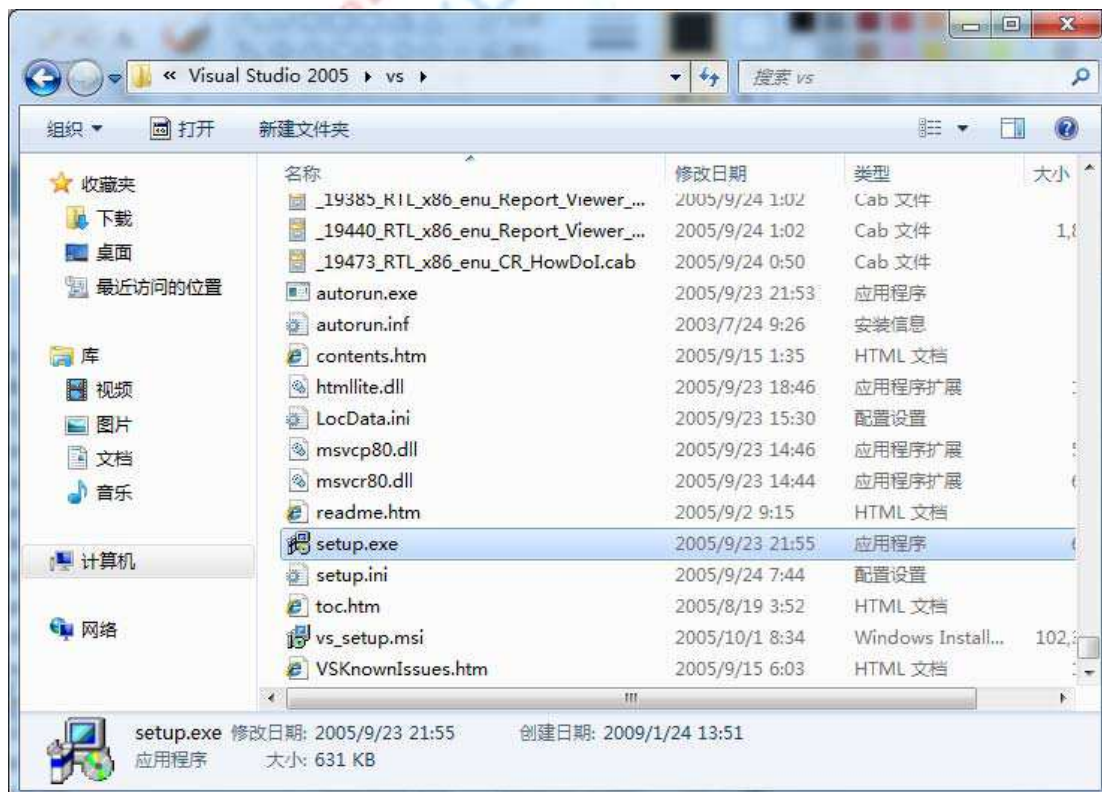
Step 2: In figure interface point "Install Visual Studio 2005", continued.
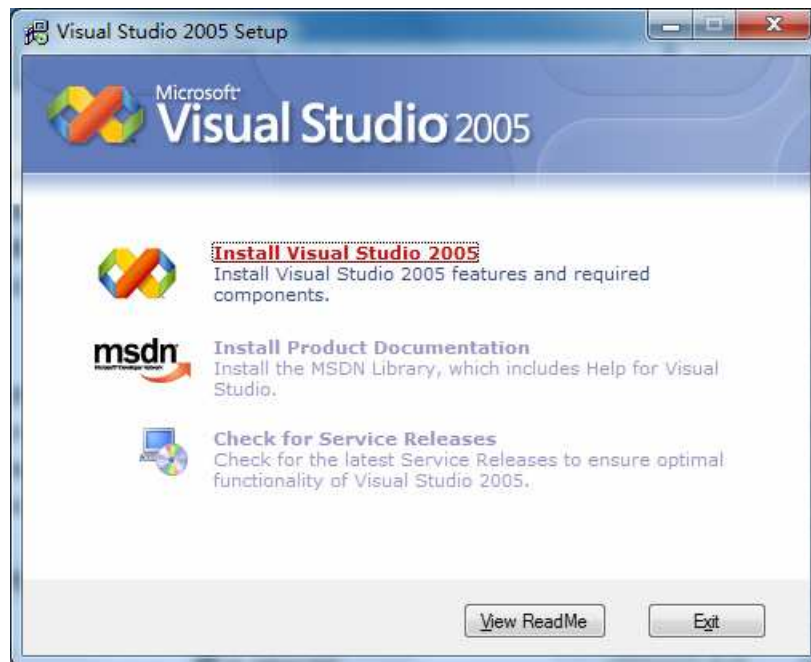
Step 3: In figure interface, wait a moment, "Next" to continue.

Step 4: In figure interface, pay attention to click on the red box, and enter the serial number, "Next" to continue.
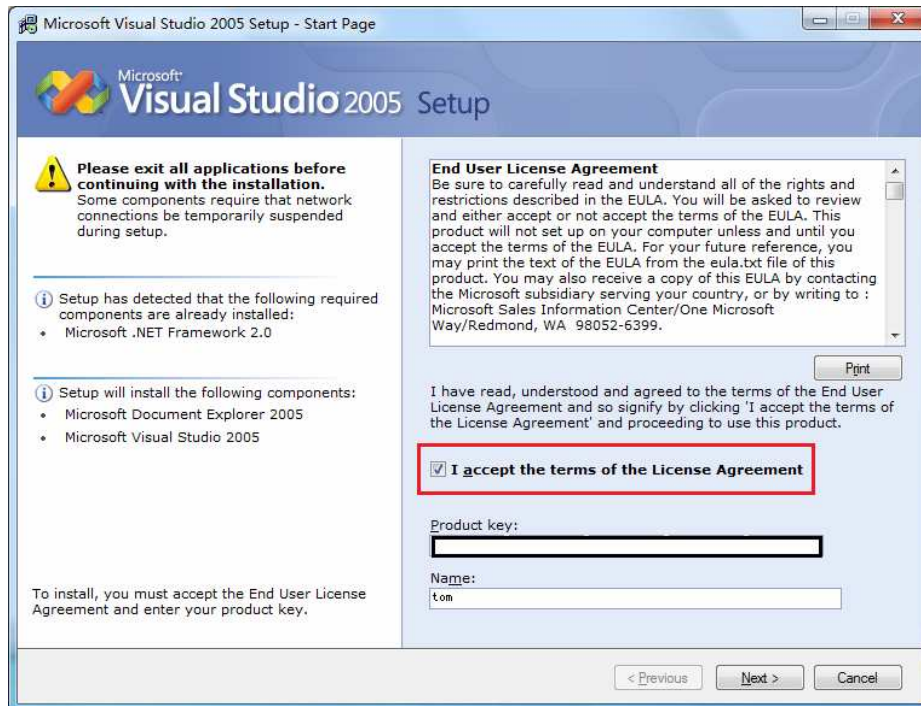
Step 5: In figure interface, select the type of installation, full installation in this selection, the "Full", "Next" to continue.


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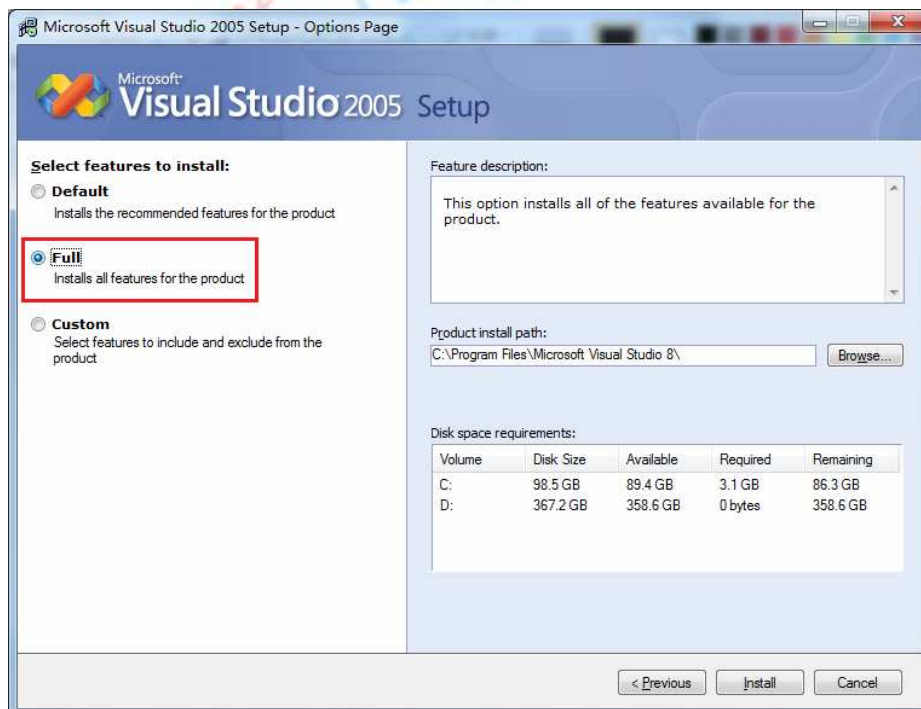
Step 6: In figure interface, officially installed Visual Studio 2005, this process is longer, please wait.

Step 7: Visual Studio 2005 installed, the following screen appears, click "Finish" to end the installation.
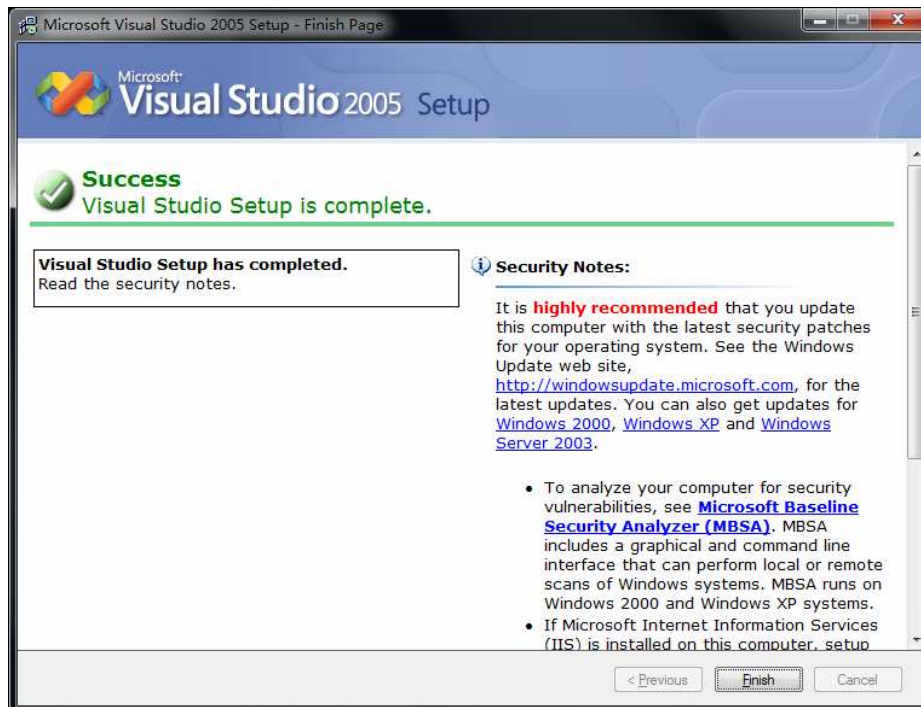
Will appear as shown in figure interface; click "Exit" to exit.
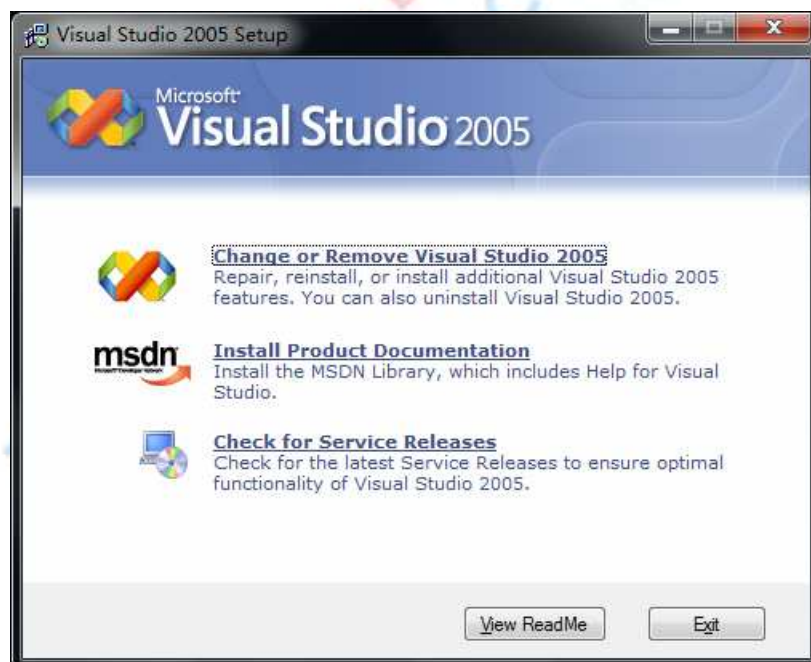
Step 8: Now install the first patch Visual Studio 2005 Service Pack 1, double-click to run VS80sp1-KB926601-X86-ENU.exe to start the installation, the interface appears in figure.
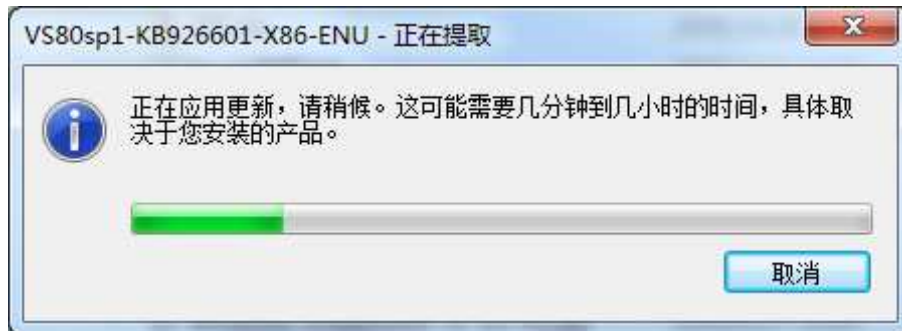
Step 9: Wait a moment, appears in figure picture, click "OK" officially installed.

Step 10: Install the license agreement to receive the click "I accept" to continue
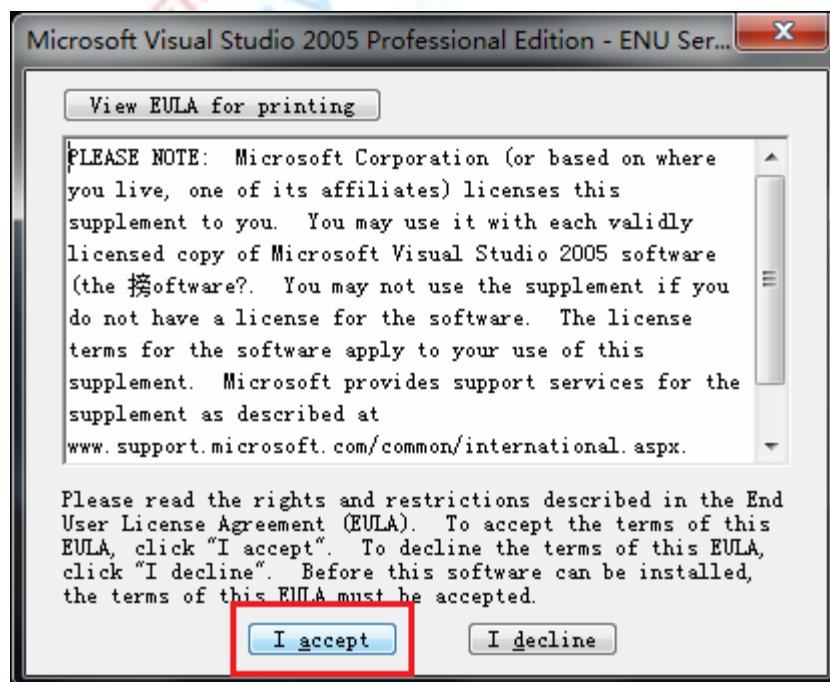
Step 11: The installation process interface, this process is longer, please wait.
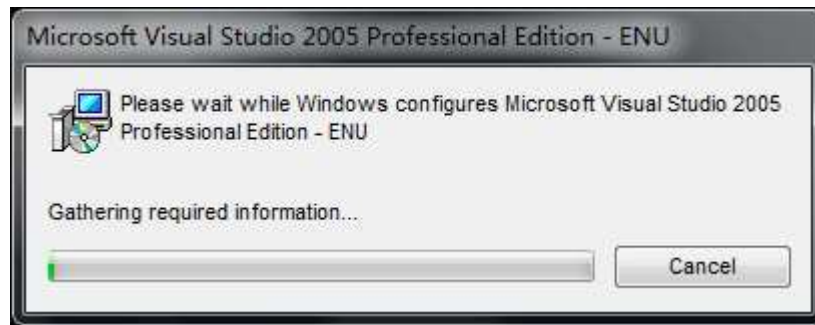
Step 12: After installation, the following dialogue appears, click "OK" end of the installation of the patch.

Step 13: Then the setup second patch Visual Studio 2005 Service Pack 1 Update for Windows Vista, double-click to run VS80sp1-KB932232-X86-ENU.exe, followed by the interface appears in figure.
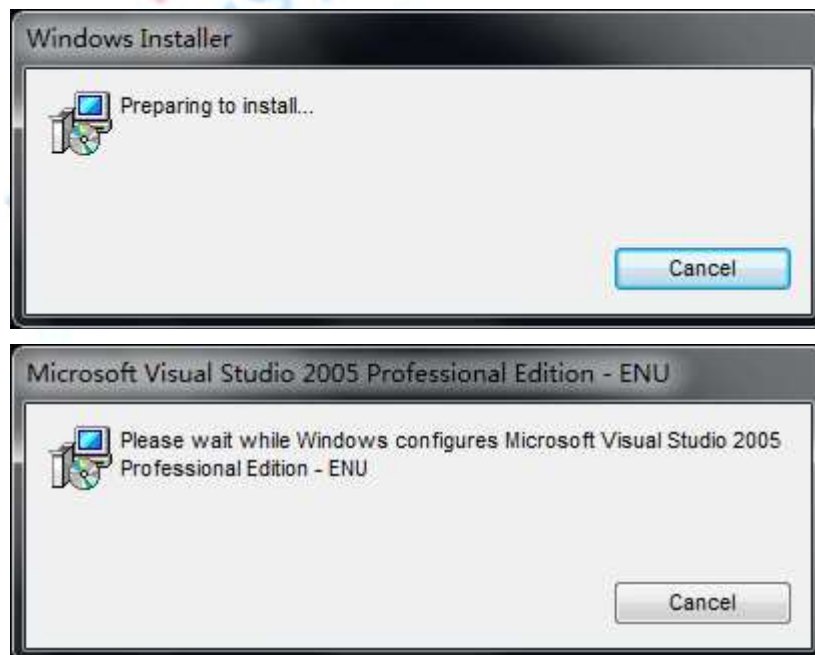
Step 14: Wait for a while appears in figure interface, click "OK" to continue.

Step 15: Install the license agreement screen appears, point "I accept" to continue.
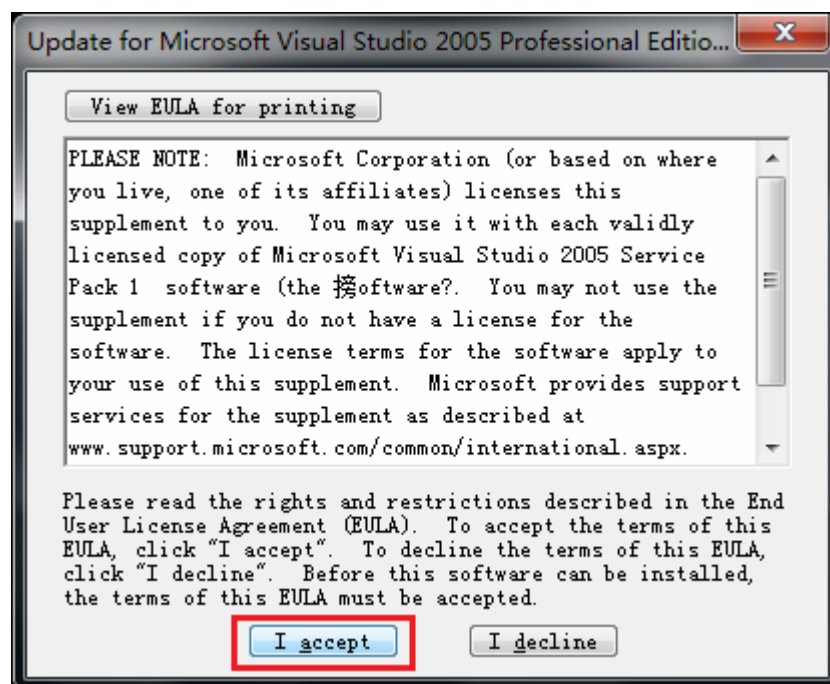
Step 16: The installation process interface, this process is longer, please wait.
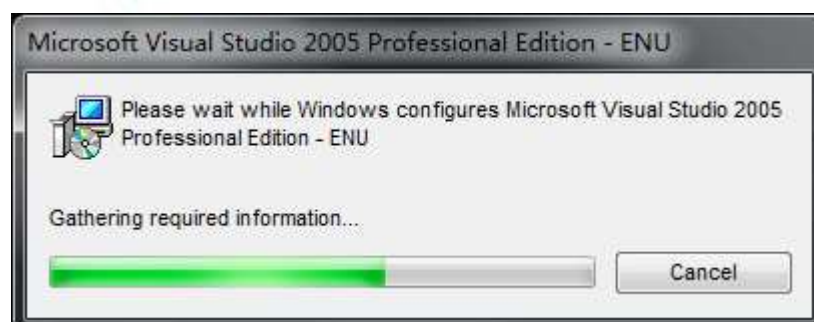
Step 17: After installation completed, the following dialogue appears, click "OK" end of the installation of the patch.


Step 18: Then the setup third patch Visual Studio 2005 Service Pack 1 ATL Security Update, double-click to run VS80sp1-KB971090-X86-INTL.exe, followed by the interface appears in figure.

Step 19: Wait for a while appears in figure interface, click "OK" to continue.

Step 20: Install the license agreement interface appears, click "I accept" to continue.
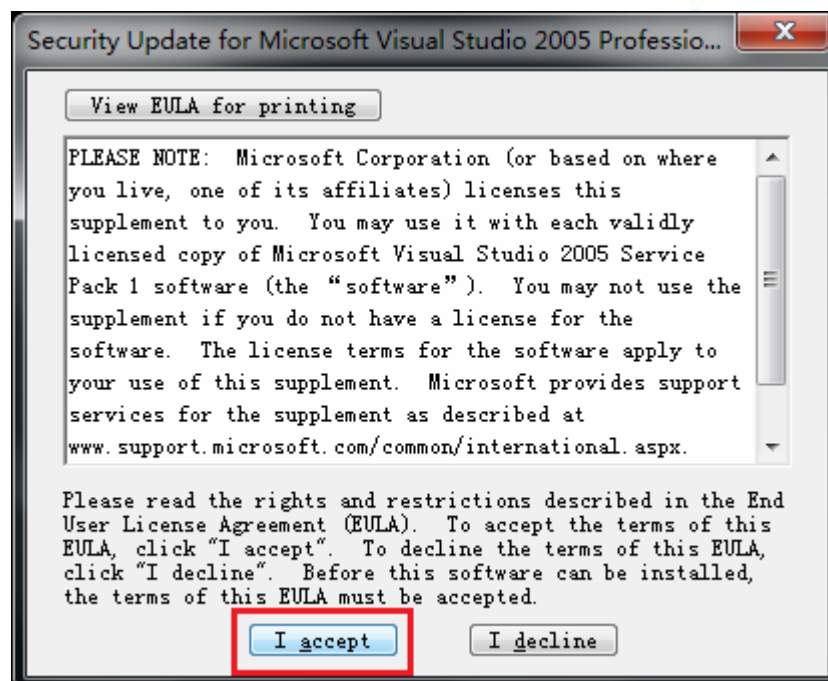
Step 21: The installation process interface, this process is longer, please wait.
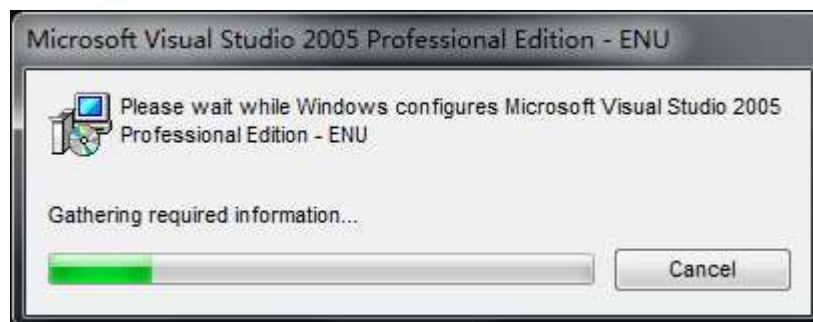
Step 22: After installation completed, following dialogue appears, click "OK" end of the installation of the patch.

Thus, based on Windows7 platform in Visual Studio 2005 and the patch has been completely installed.

9.1.2 Windows CE 6.0 and patch installation

Then start the installation of Windows CE 6.0 Platform Builder.

Note: On Windows 7 and Windows CE 6.0 patch requires administrator privileges to install, do not double-click the installation file to run the installation, or to the back can't be installed successfully, please follow these steps to start the installation file.

Step 1: Click "Start > Programs > Accessories", find "Command Prompt", then right click, when the menu appeared, click "Run as administrator", as shown in figure.
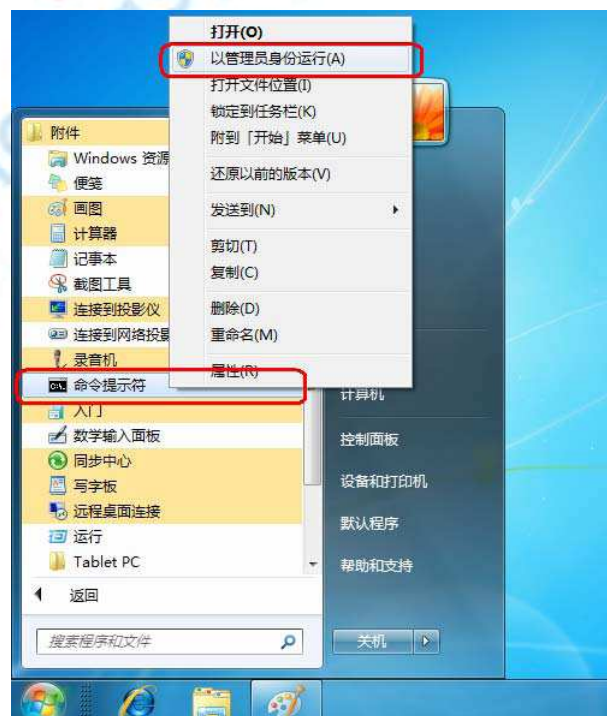
Step 2: Command line window, enter the appropriate installation directory, and enter the setup program name "Windows Embedded CE 6.0.msi", start the installation, as shown in figure.

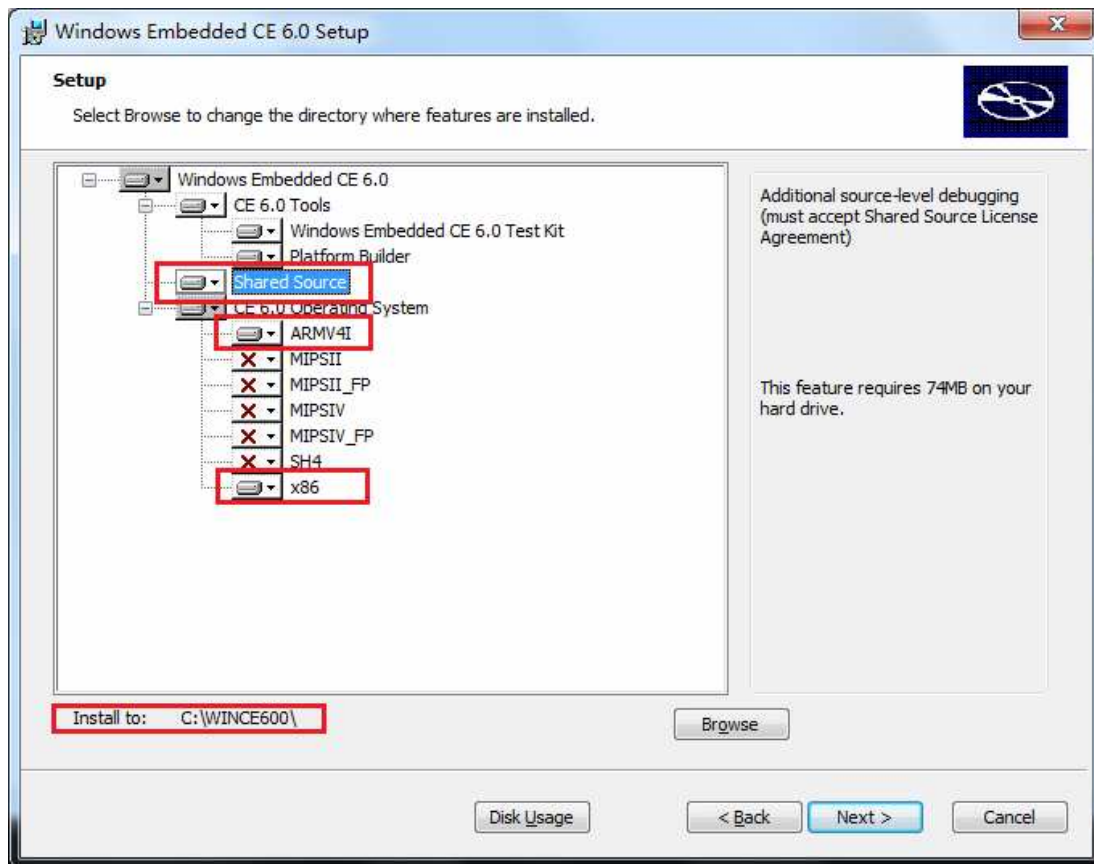Step 3: Appears in figure interface, "Next" to continue.

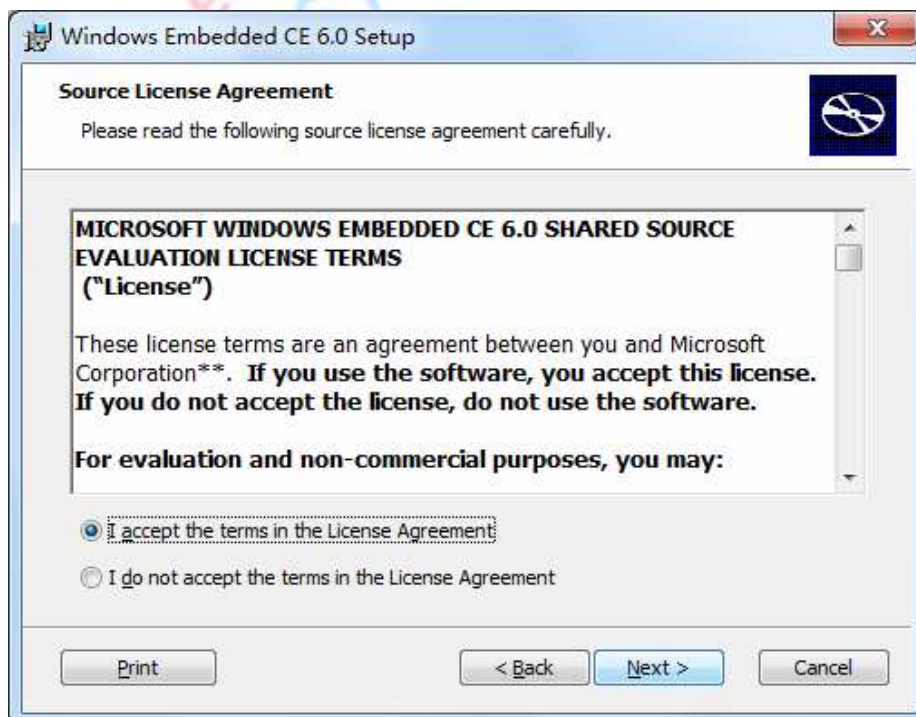Step 4: Appears in figure interface, "Next" to continue.
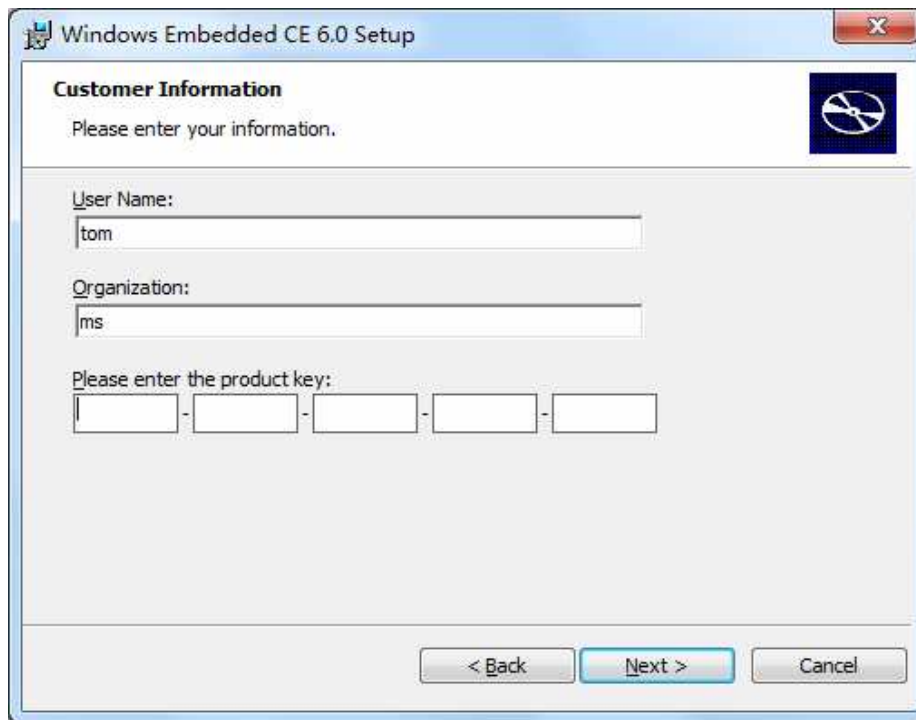
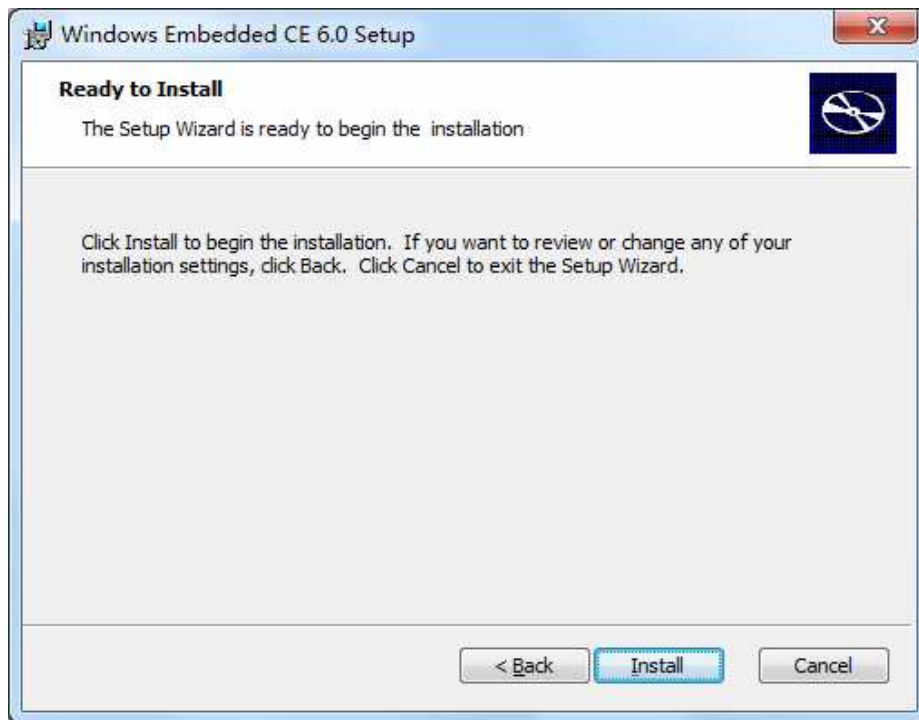Step 5: Installation License Agreement interface appears, select "I accept …", "Next" to continue.
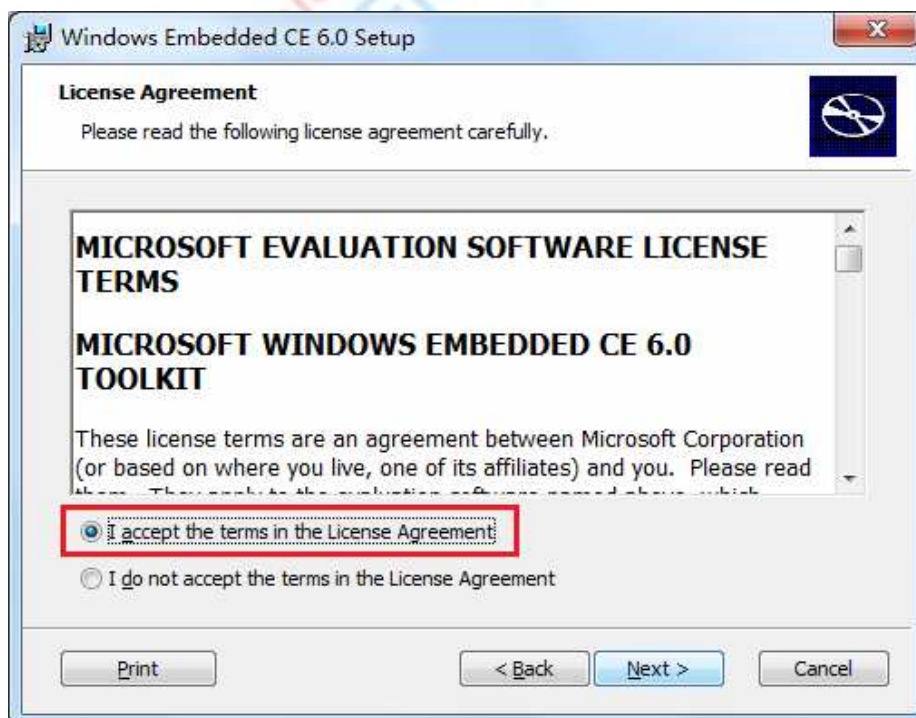
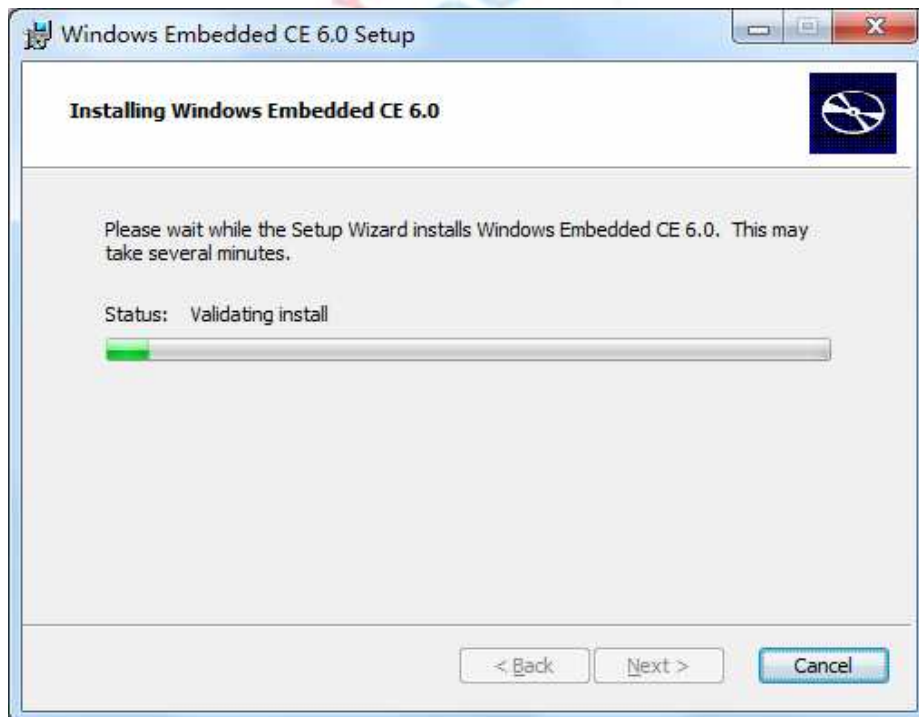Step 6: Select and set as shown in figure, click "Next" to continue.

Step 7: In figure interface, select "I accept …" click "Next" to continue.

Step 8: In figure interface, click "Install" continue.

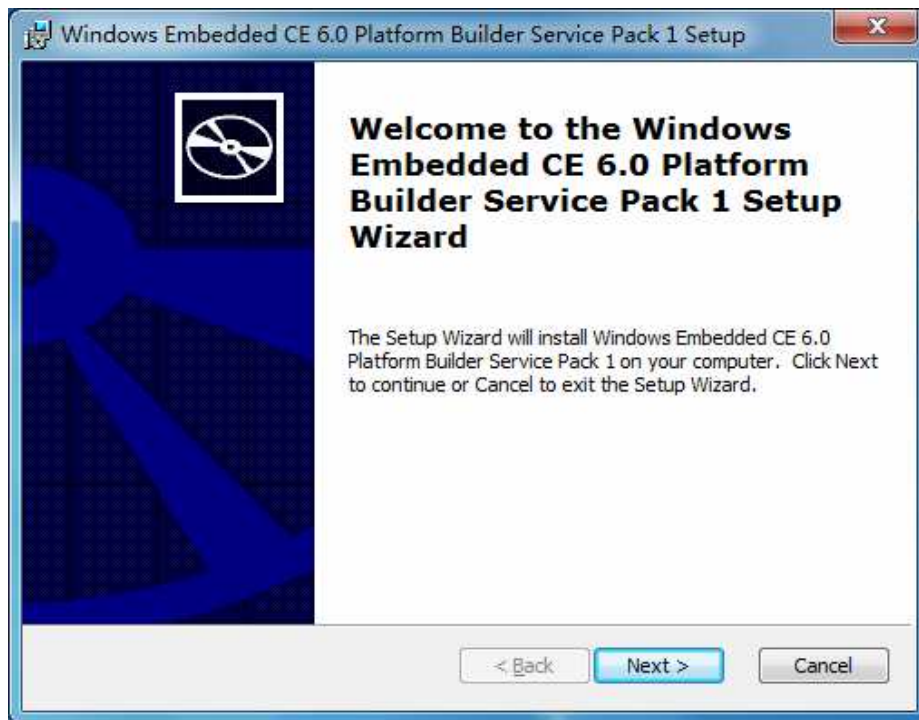Step 9: Installation progress as shown, this process takes longer, please wait.

Step 10: Installation completed, in figure interface, click "Finish" to end the installation.
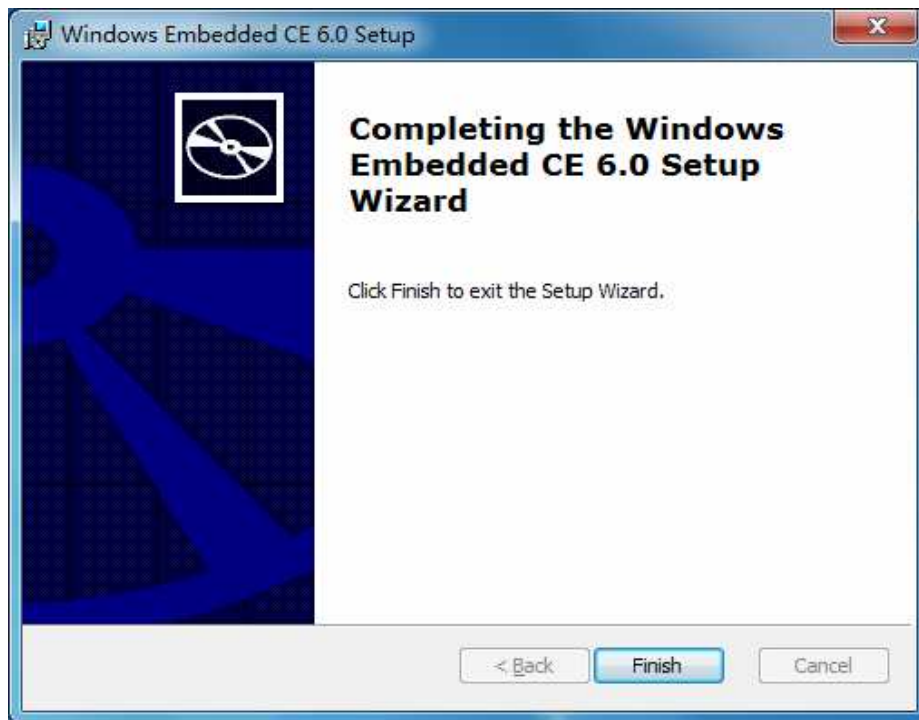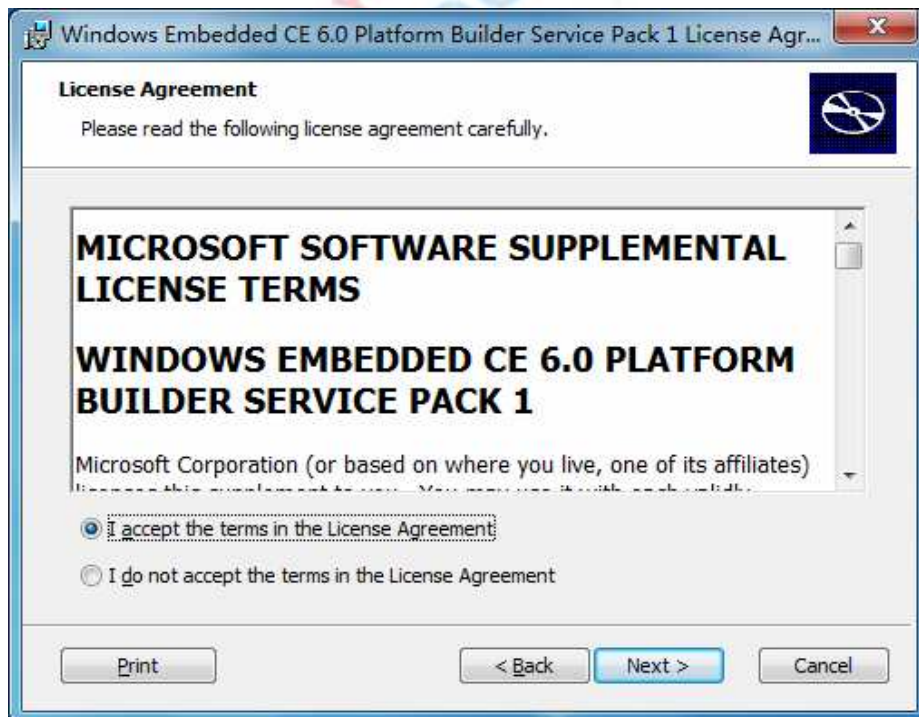

Step 11: Then the setup the first Windows CE 6.0 patch "Windows Embedded CE 6.0 Platform Builder Service Pack 1.msi", the beginning of this section in accordance with the method Step 1 as an administrator to enter the command line window and enter the appropriate directory, enter "Windows Embedded CE 6.0 Platform Builder Service Pack 1.msi" to start the installation, as shown in figure.
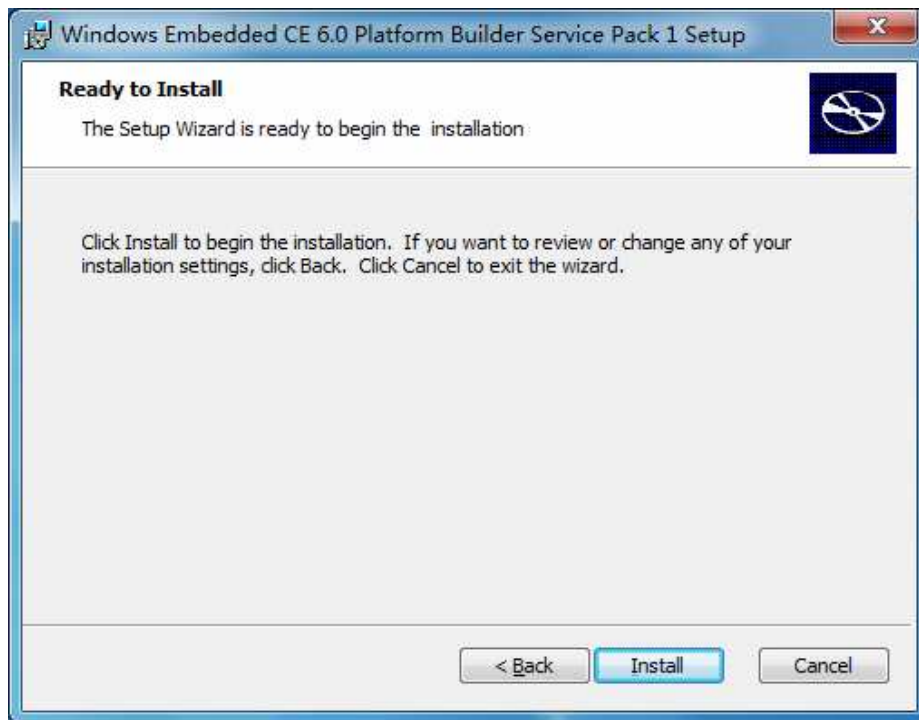
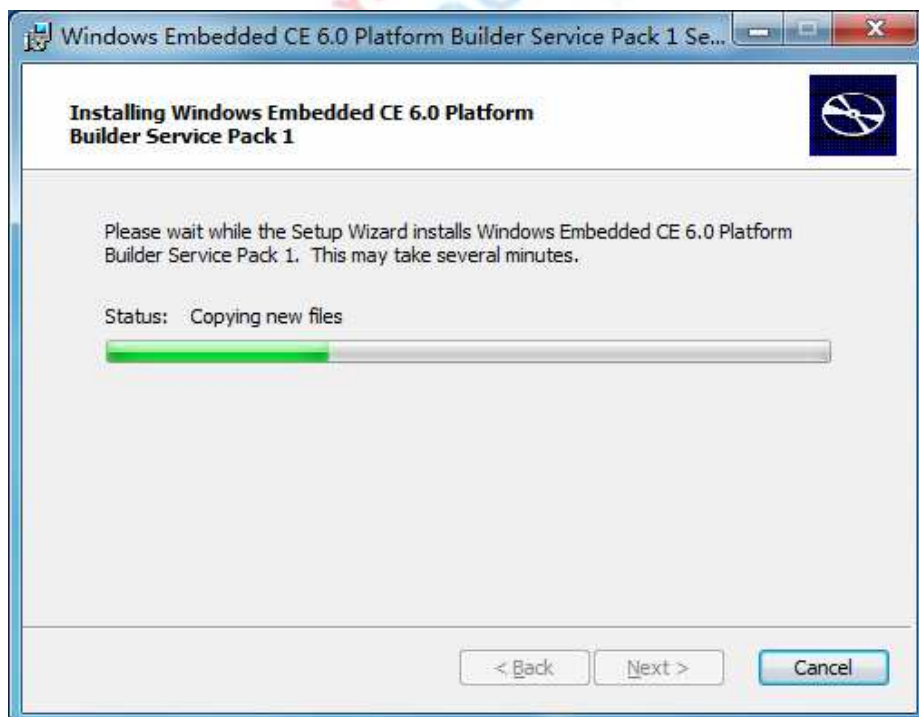Step 12: Appears in figure interface, "Next" continue.

Step 13: Appears in figure interface, select "I accept …", and click "Next" to continue.
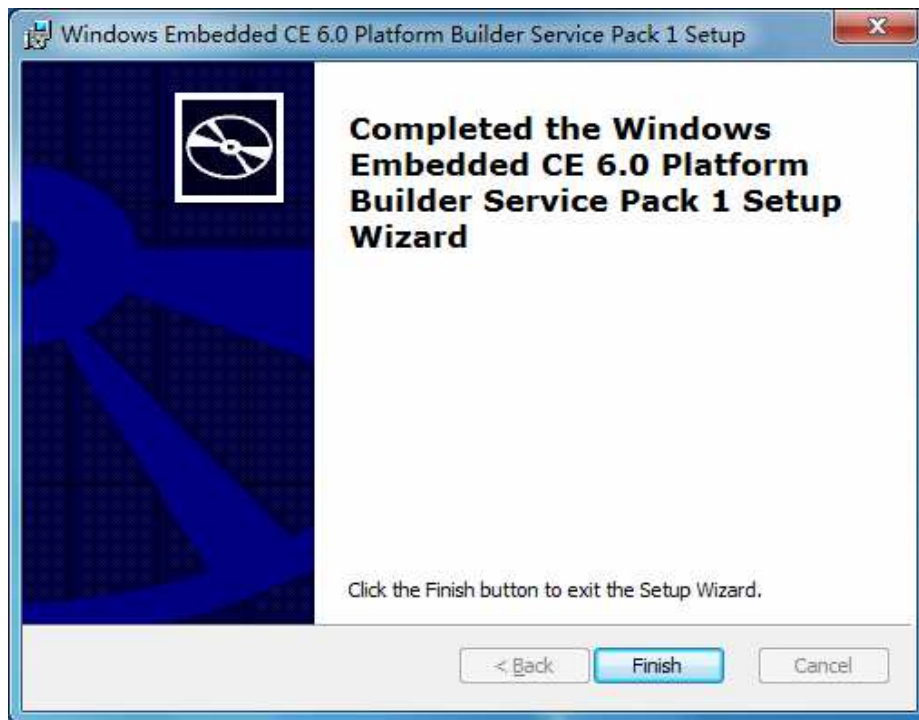
Step 14: Appears in figure interface, click "Next" to continue.

Step 15: Installation progress as shown, this process takes longer, please wait.

Step 16: Installation completed the end, in figure interface, click "Finish" to end the installation.
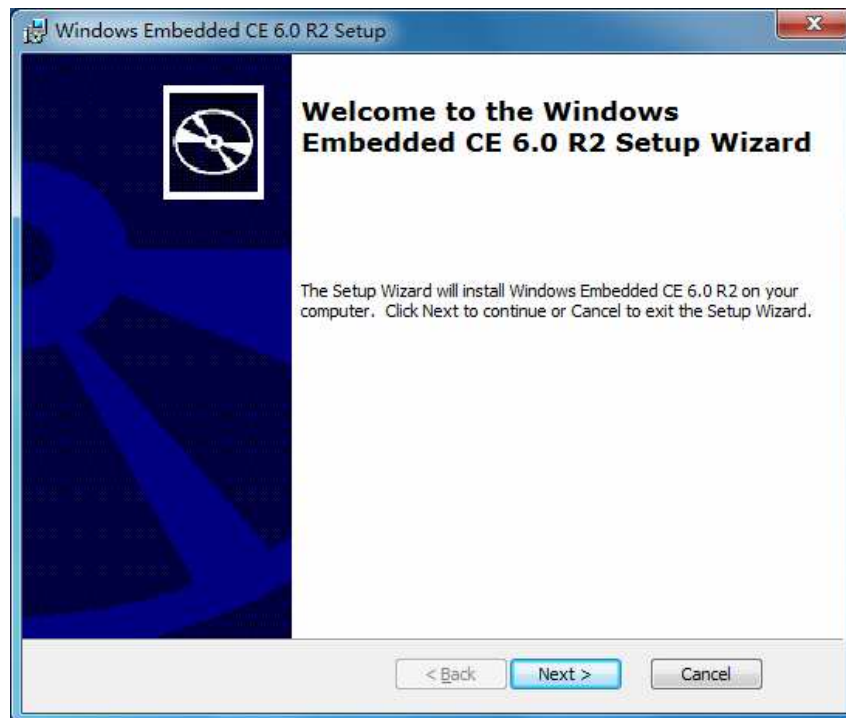

Step 17: Then the setup Windows CE 6.0 for the second patch "Windows Embedded CE 6.0 R2.msi", the beginning of this section in accordance with the method Step 1 as an administrator to enter the command line window and enter the appropriate directory, type "Windows Embedded CE 6.0 R2.msi" to start the installation, as shown in figure.
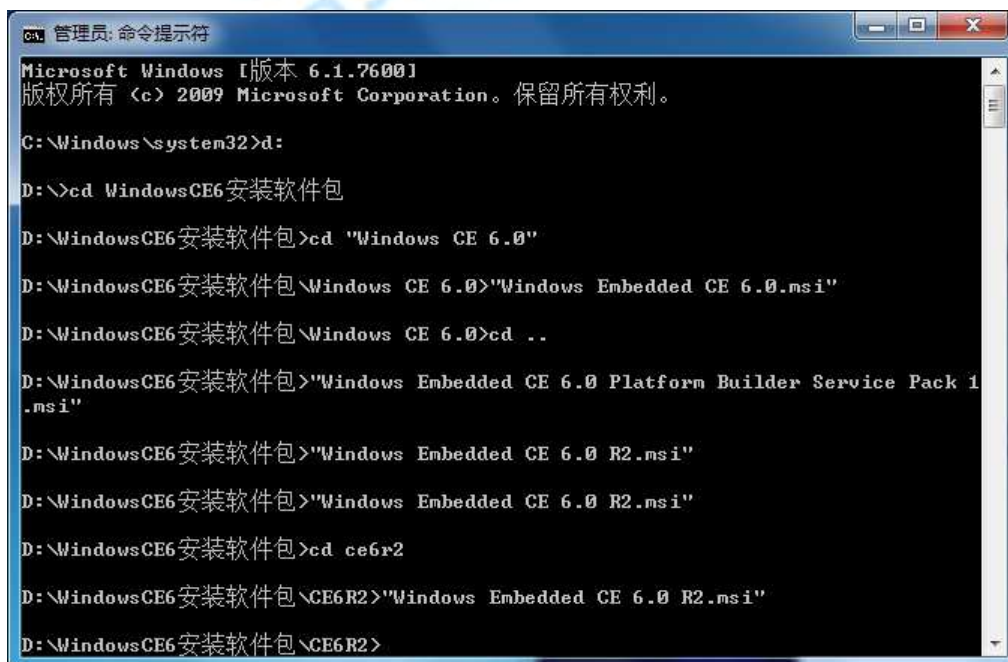
Note: Some users may download to a separate Windows Embedded CE 6.0 R2.msi "installation file, size is about 50MB, but this patch seems to be incomplete, may encounter when installing the lack of "help.cab" file issues, resulting in unable to successfully install, so we recommend that use our R2 patch, which a total of 122 files, about 1.01GB.
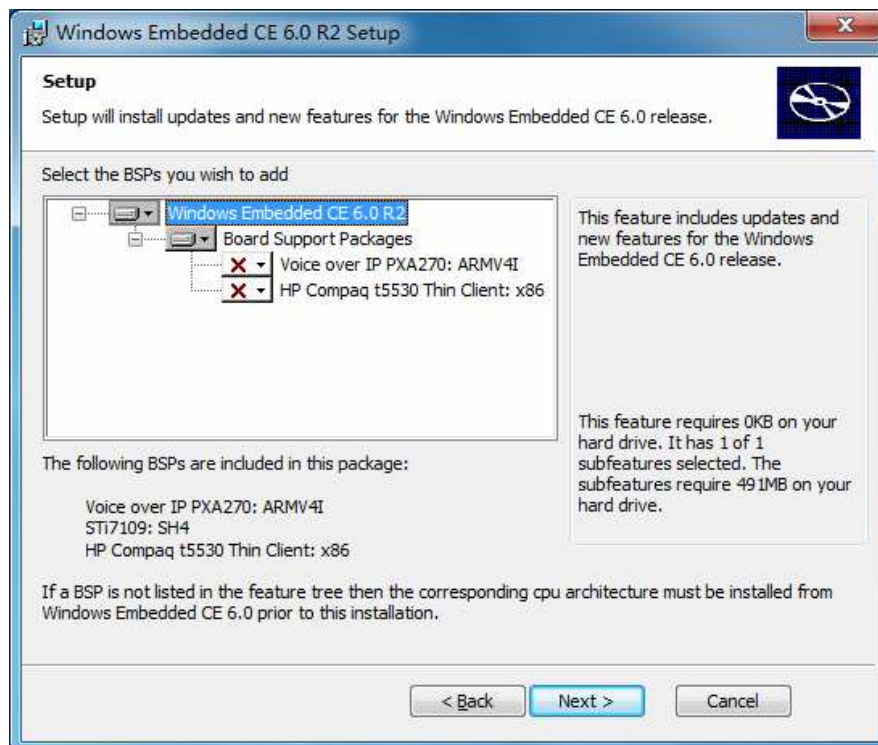
Step 18: Appears in figure interface, click "Next" continue.
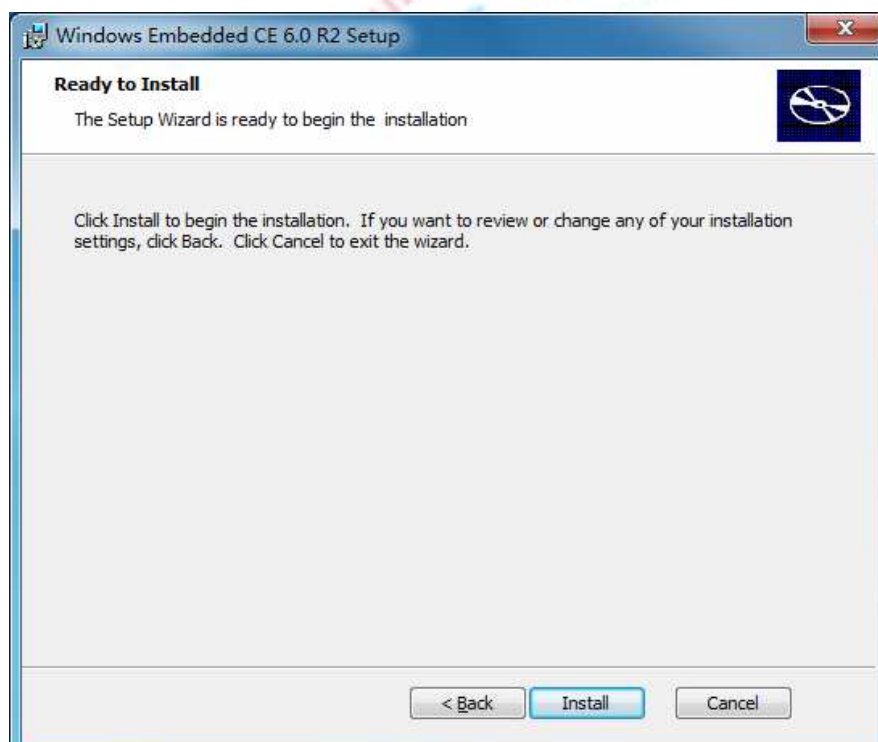

Step 19: Appears in figure interface, select "I accept ...", and click "Next" continue.
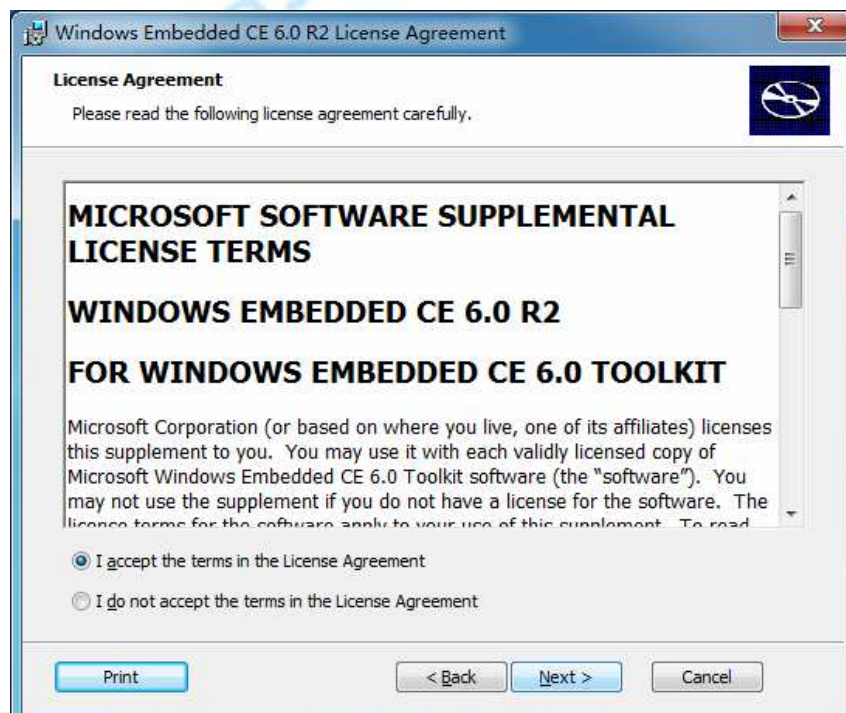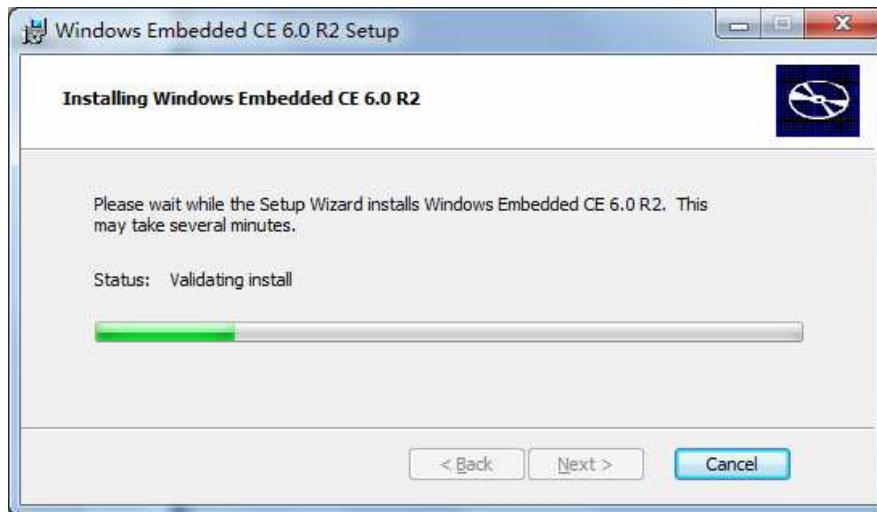
Step 20: Appears in figure interface, do not make any changes click "Next" continue.
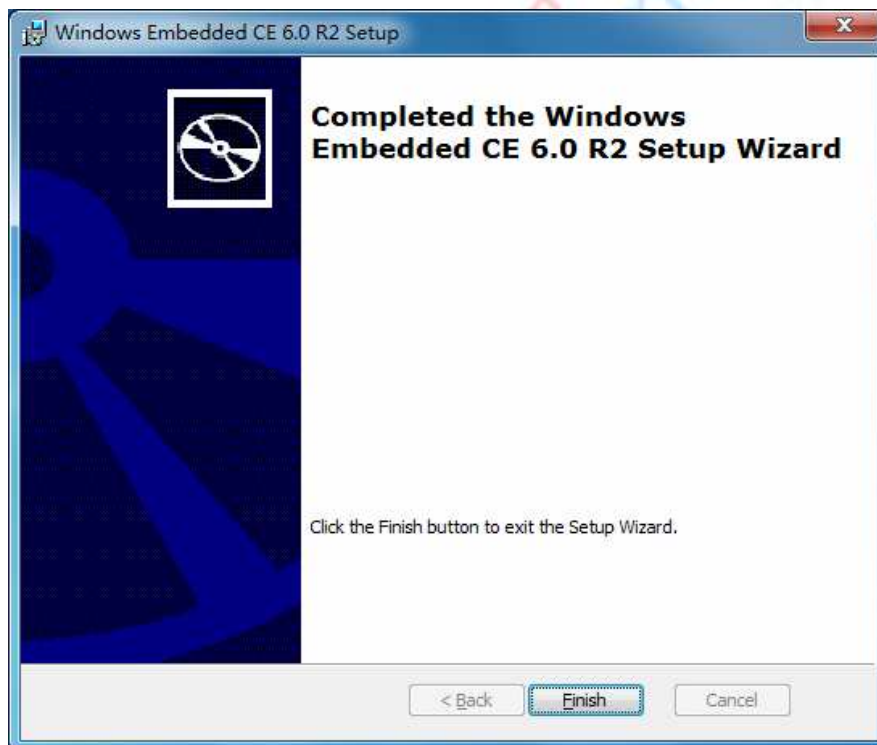

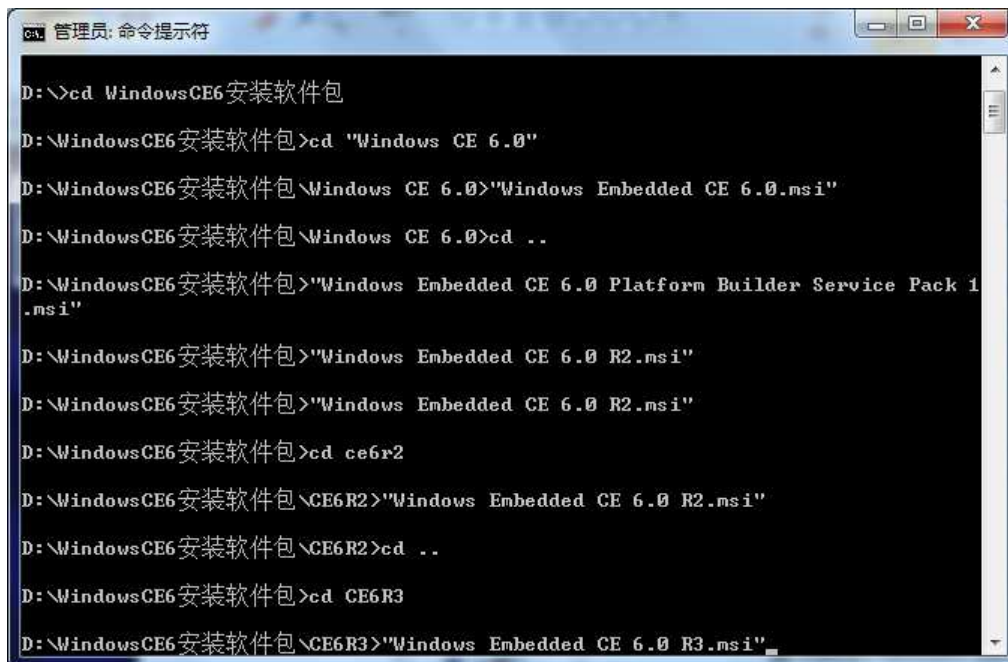Step 21: Appears in figure interface click "Next" continue.

Step 22: Installation progress, this process takes longer, please wait.

Step 23: Installation completed, in figure interface, click "Finish" to end the installation.

Step 24: Install Windows CE 6.0 now the third patch R3, the beginning of this section in accordance with the method Step1 as an administrator to enter the command line window and enter the appropriate directory, type "Windows Embedded CE 6.0 R2.msi" to start the installation, shown in figure.

Note: Some users may download to a separate Windows Embedded CE 6.0 R3 "installation file, it is actually a CD-ROM image file to the user ease of use, we extract it, make an ordinary directory papers, which total 166 files, size is about 1.14GB.
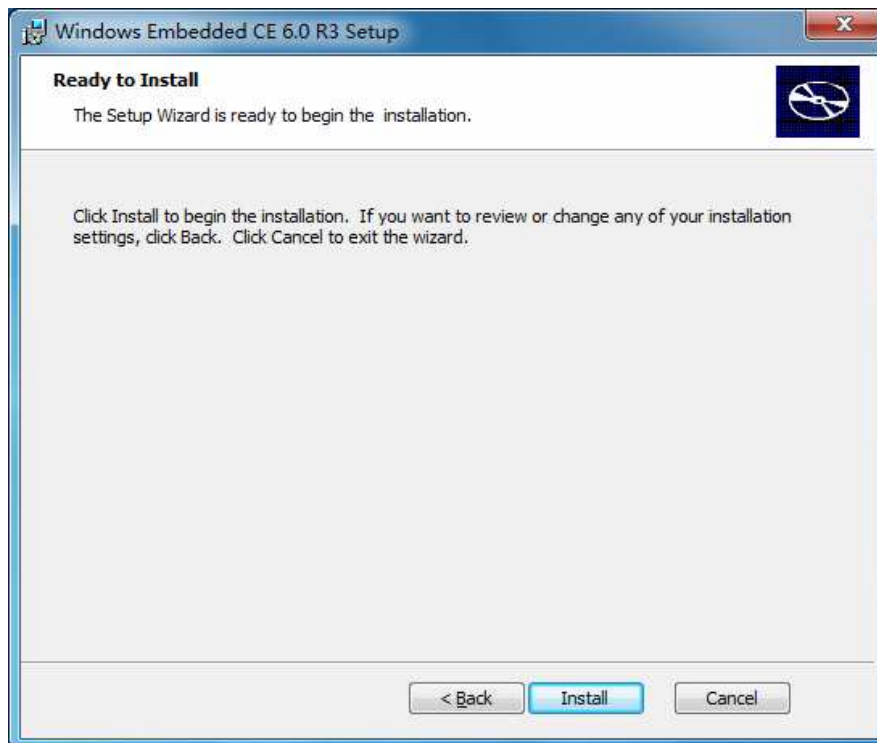
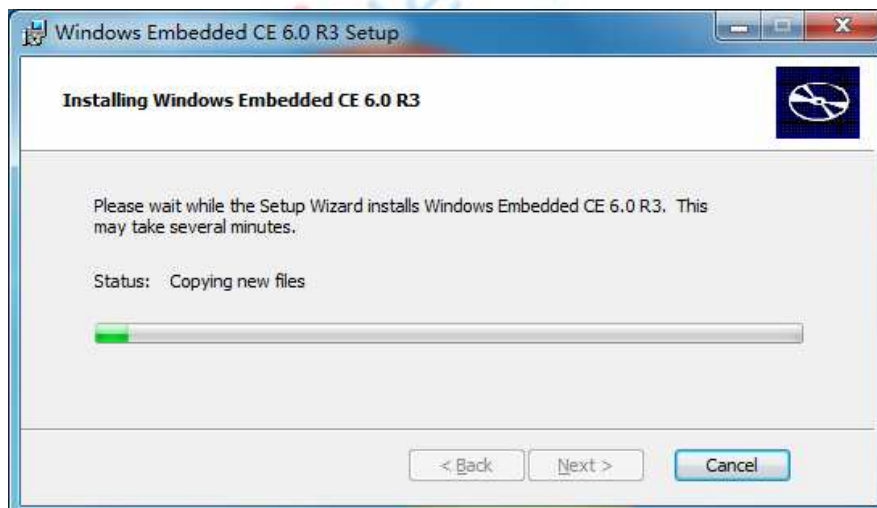Step 25: Appears in figure interface click "Next" continue.
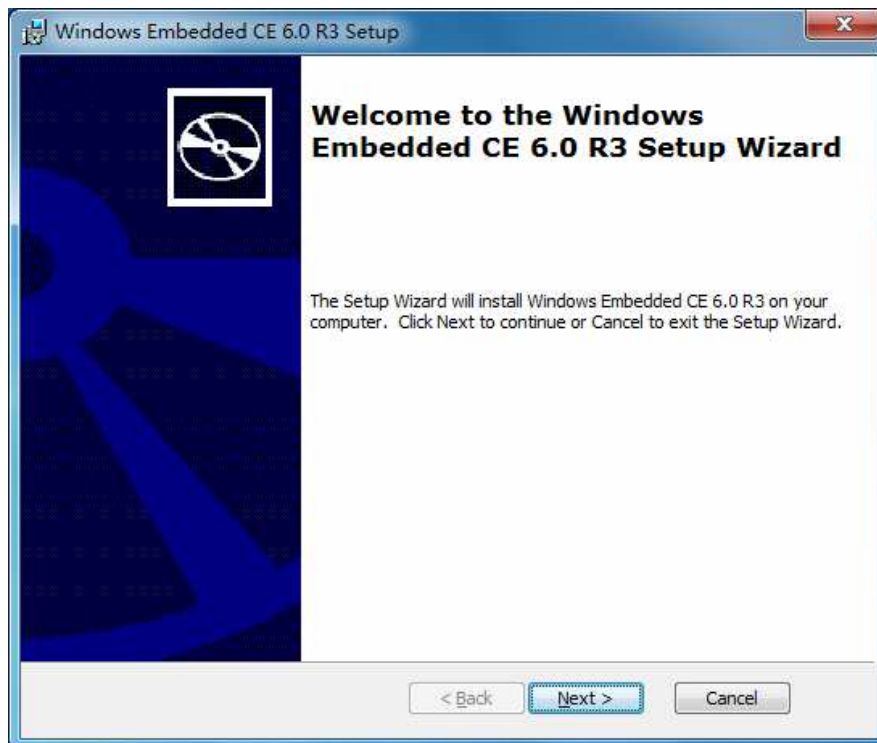
Step 26: Appears in figure interface, select "I accept ..." and click "Next" continue.
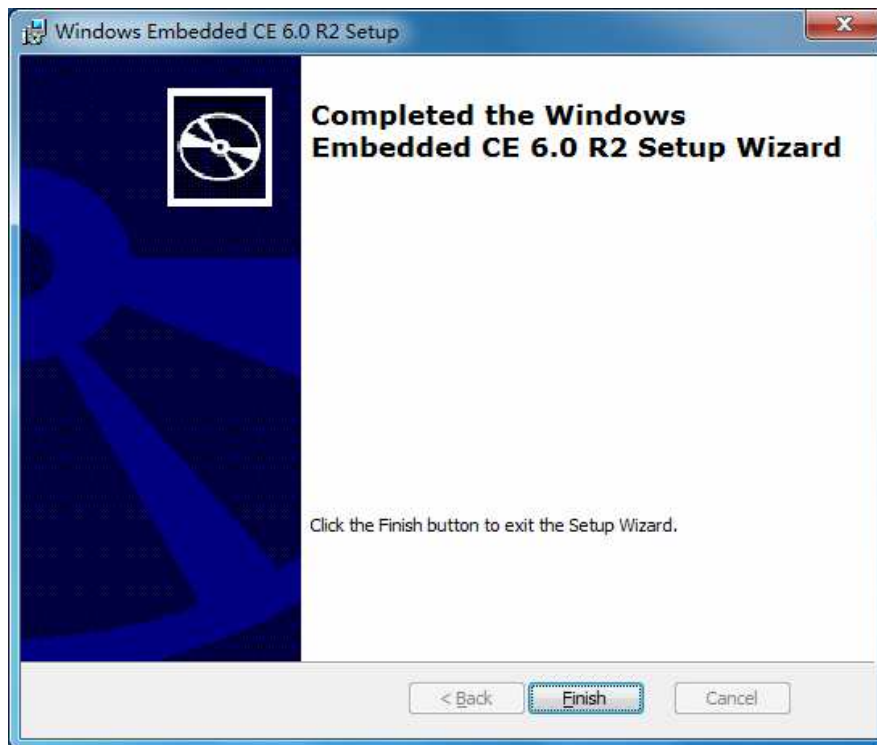
Step 27: Appears in figure interface, click "Install" continue.

Step 28: Installation progress, this process takes longer, please wait.

Step 29: Installation completed, in figure interface, click "Finish" to end the installation.

9.1.3 Installing third-party software Tencent QQ

In Windows CE 6.0 R3 patch, Microsoft also offers optional formal third-party software, respectively, Tencent QQ and File Viewers, we have put them into the data disc, and by the way you can download them from the Microsoft website, at the following.

http://www.microsoft.com/downloads/details.aspx?displaylang=en&FamilyID=bc247d88 -ddb6-4d4a-a595-8eee3556fe46#filelist

(This address may be invalid, please check the Microsoft website yourself)

Note: We followed the example, the actual used Tencent QQ, so we only install QQ, the user can install other software testing.

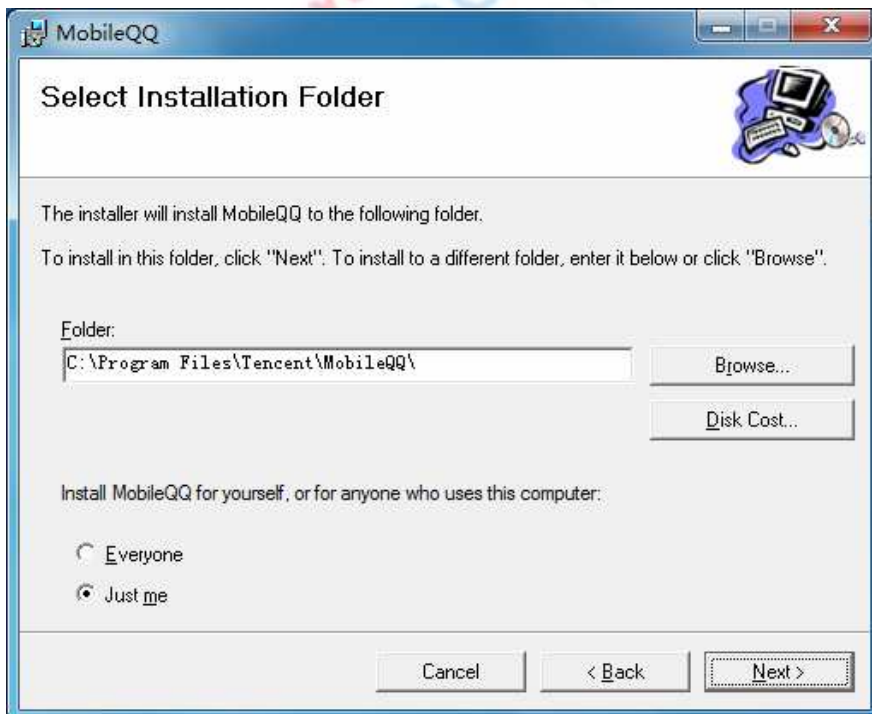Step 1: In QQ installation directory, double click to run setup.exe to start installation, as shown in figure.
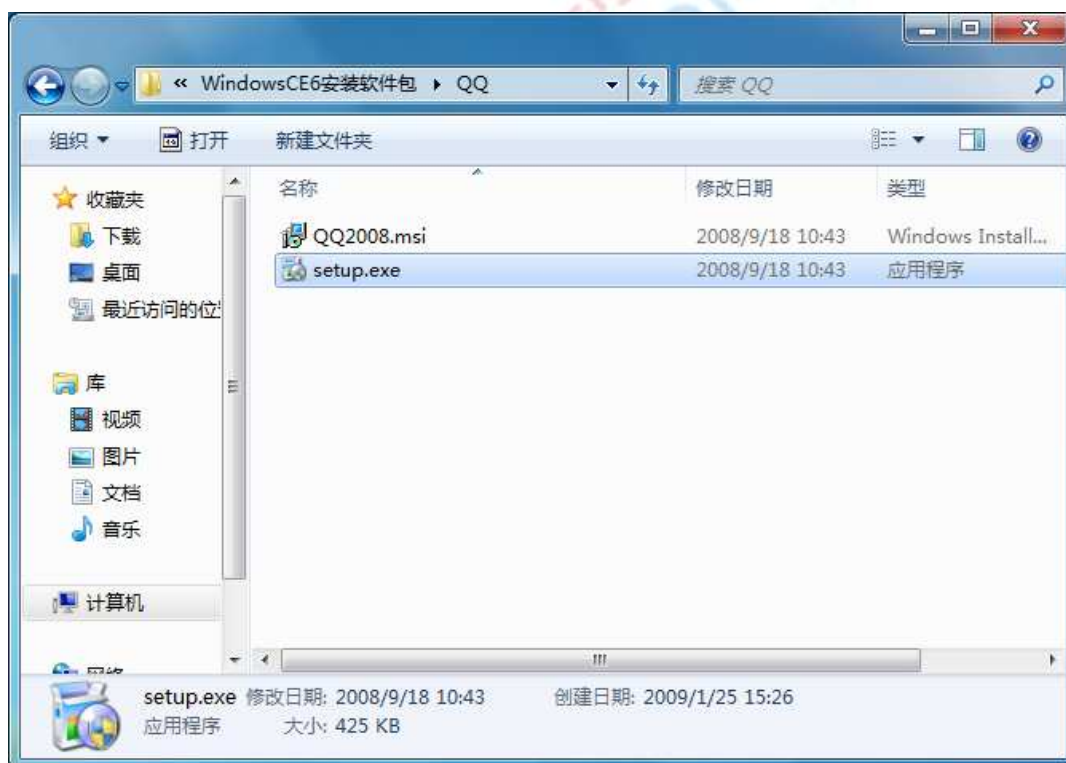
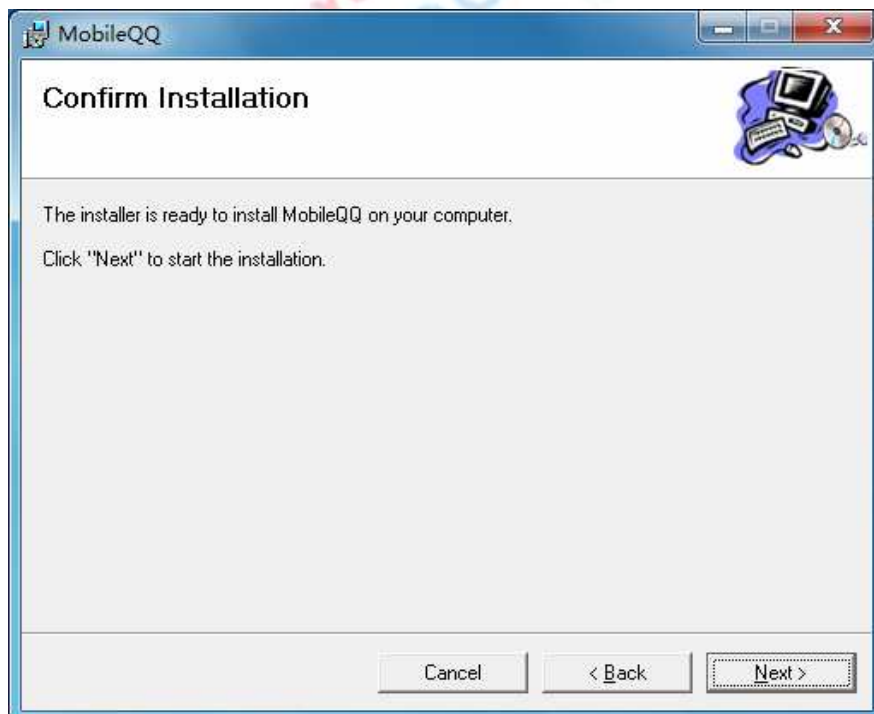Step 2: Appears in figure interface, click "Next" continue.

Step 3: Use the default configuration, does not make any changes, click "Next" continue.

Step 4: Appears in figure interface, Select "I Agree", click "Next" continue.

Step 5: Appears in figure interface, click "Next" continue.

Step 6: Appears in figure interface, wait a moment.

Step 7: Appears in figure interface, click "Close" to end the installation.

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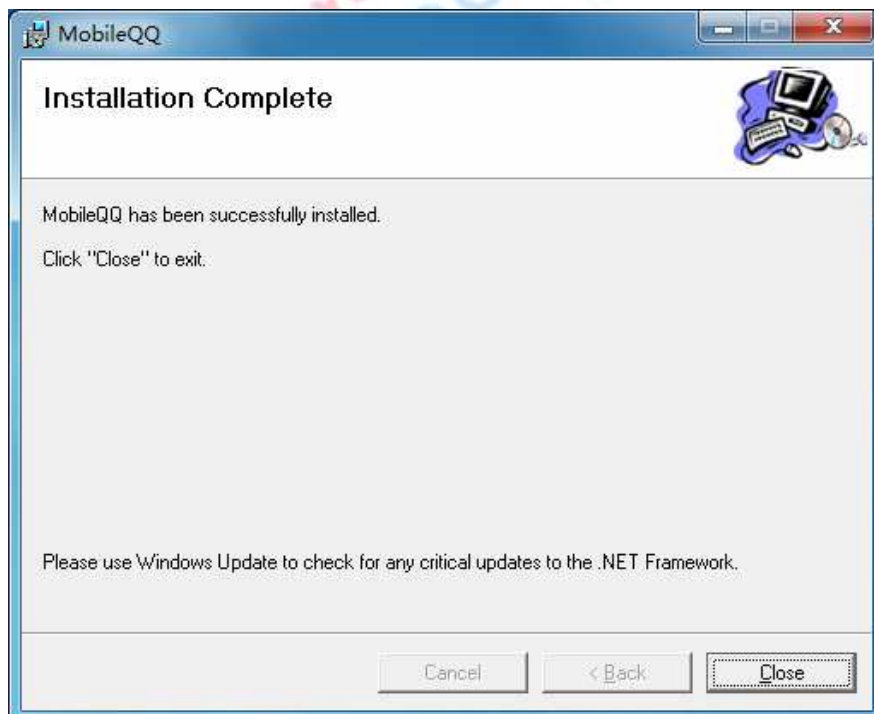
9.1.4 BSP and Kernel Install Example Projects

Mini2440 the BSP, a sample project and other files only installation file mini2440-ce6-suite-1033.exe (suffix 1033 is the date version of the logo in weeks), which contains all of the BSP source code and examples of two core projects, users can http://www.arm9.net websites, "download" to find the latest version, the following is a detailed installation process.

Note: the following steps to install the BSP, is not recommended to change the way installation path, or they may not compile.
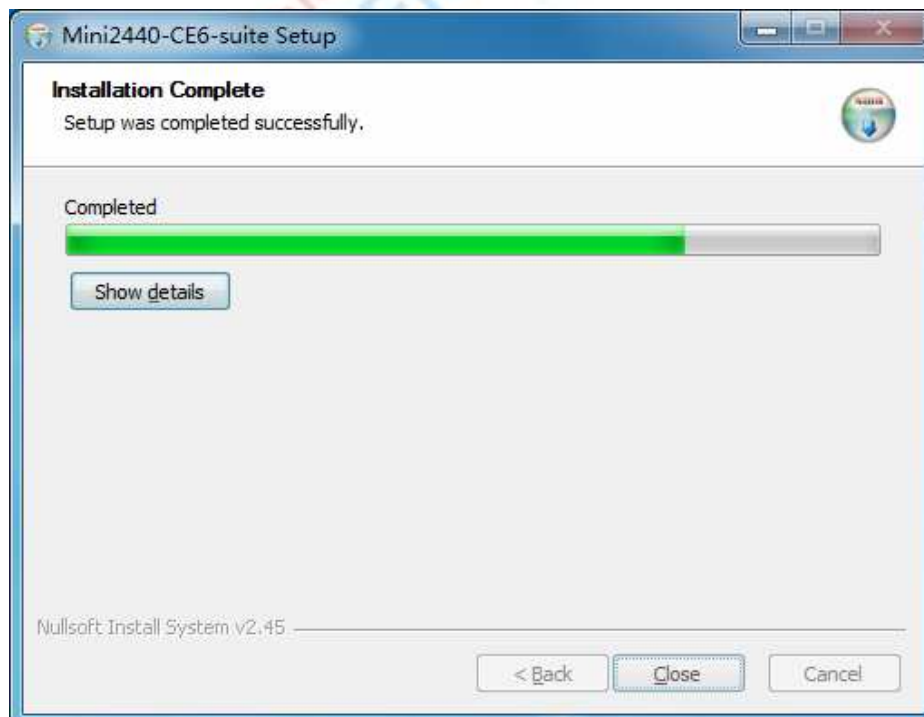
Step 1: Find mini2440-ce6-suite-1033.exe executable installation file, and double-click to run.
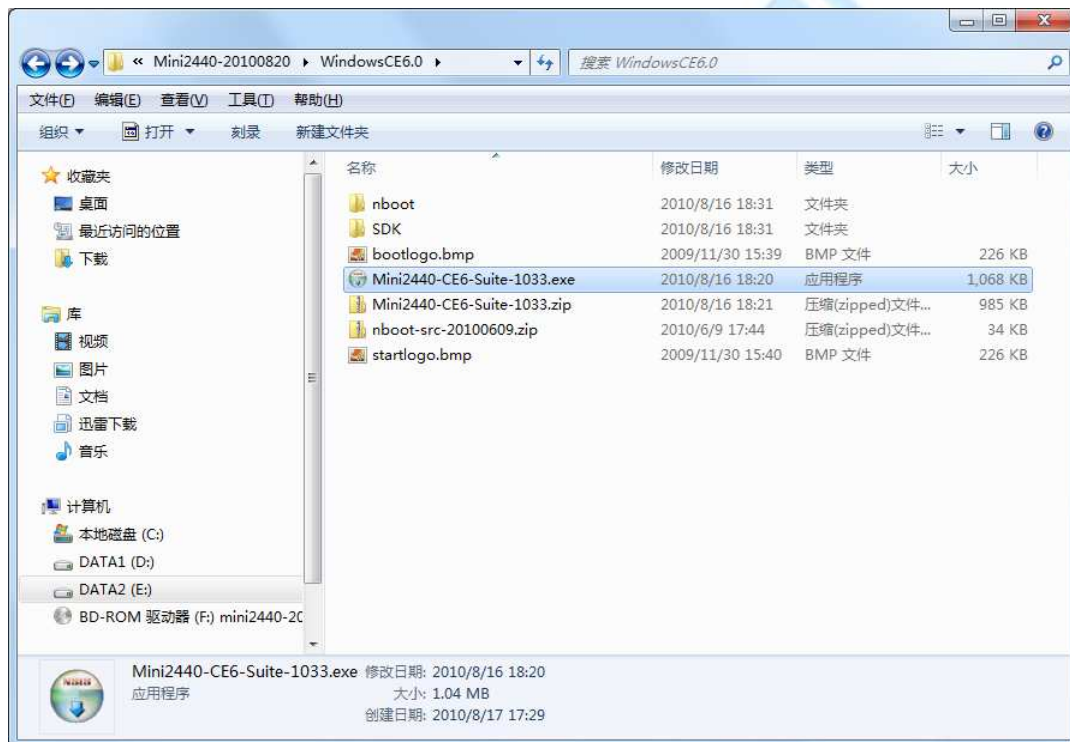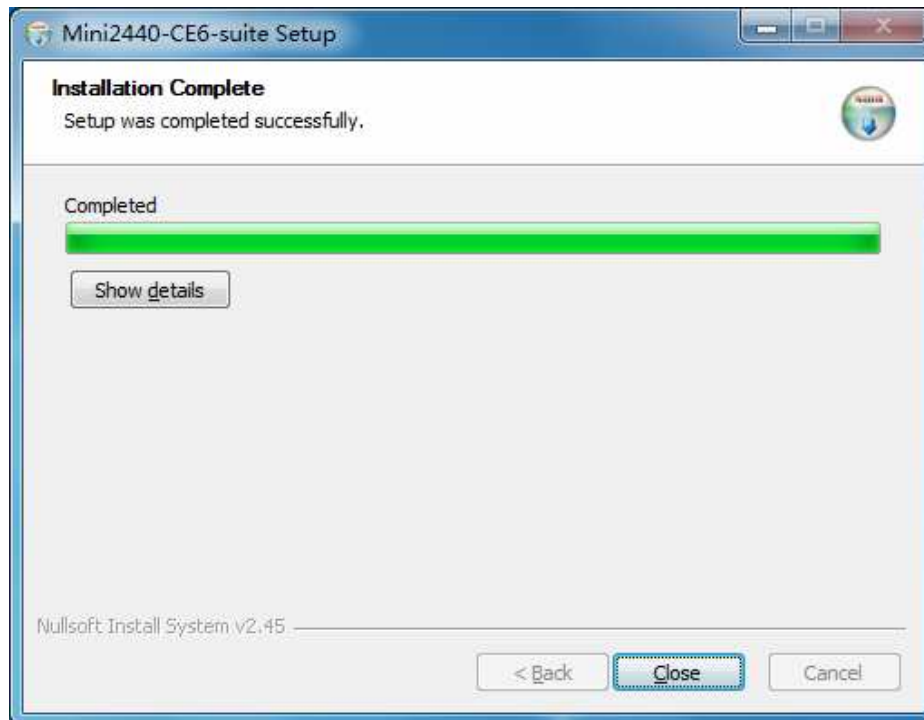
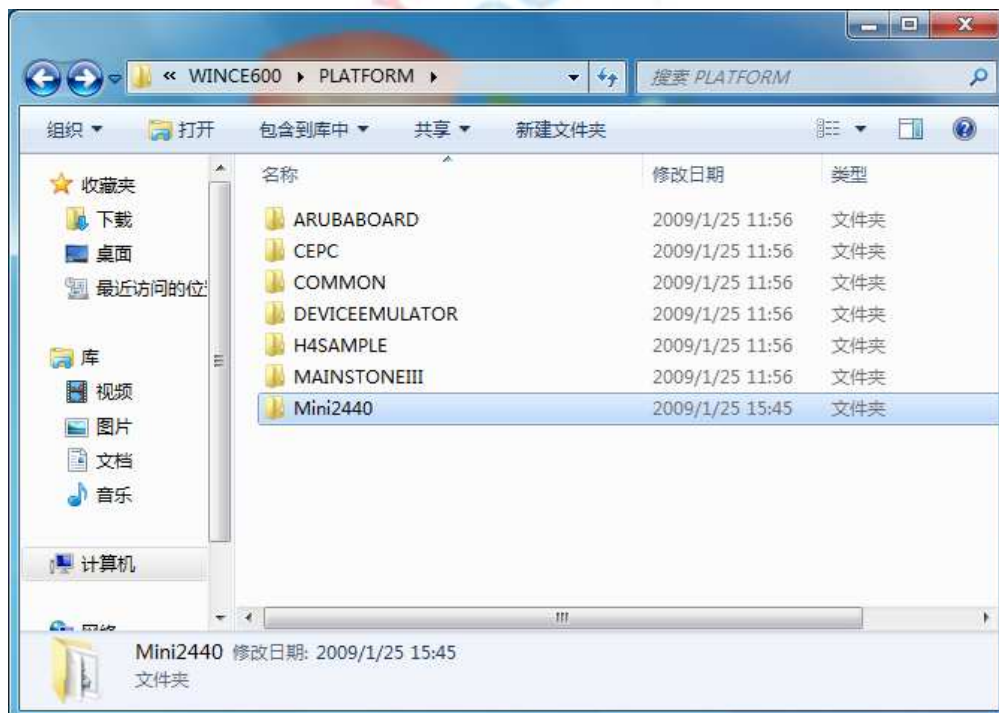Step 2: Keep the default settings, click "Install" continue.
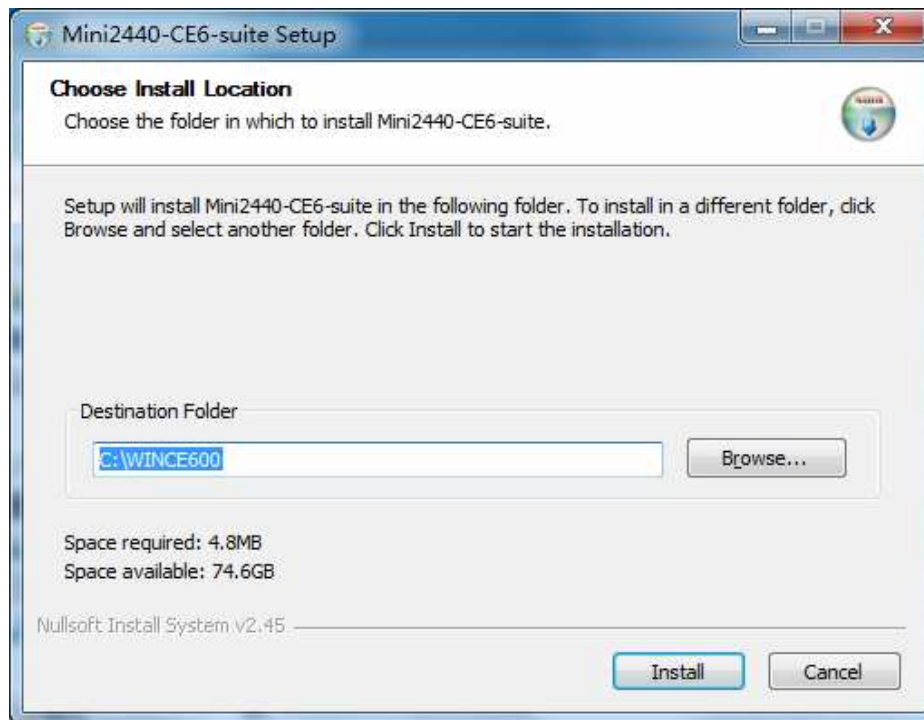
Step 3: Setup interface appears, because the installation file is small, the installation will end soon.
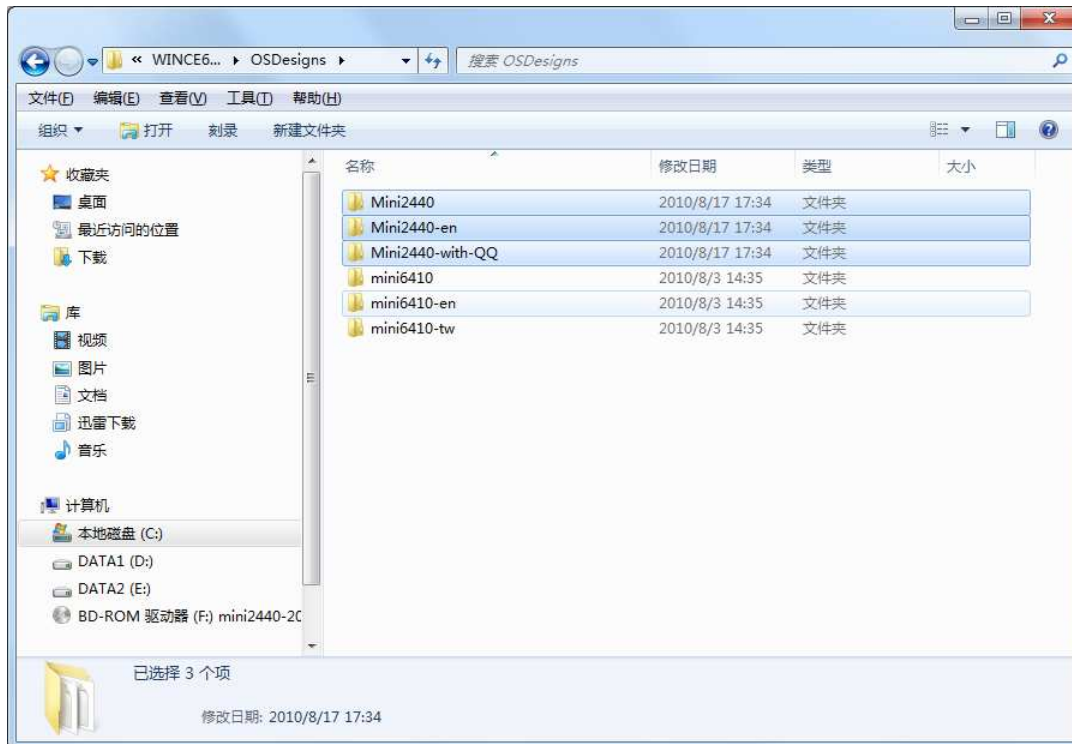
Step 4: Installation Complete appeared in figure interface, click "Close" to end the installation.

Installer will create mini2440 BSP directory in WinCE600\PLATFORM, as shown in figure.

And three kernel sample projects created in WinCE600\OSDesigns directory as shown in figure.

Which:

Mini2440 directory contains project files that can be used to compile the generated corresponding Chinese version of CD-ROM WinCE kernel image.

Mini2440-with-QQ directory project file, can be used to generate compile WinCE kernel contains the image of Tencent QQ

Mini2440-en directory contains project files that can be used to generate the English version of WinCE kernel image.

So far, Windows CE 6.0 development environment has been completely created.

9.1.5 Driver source code location

Mini2440 now has the most complete BSP, which is the driver and each driver has a corresponding graphical interface of basic test procedures. Each location of the driver's source code as follows:

(1) LED driver

\Mini2440\SRC\DRIVERS\LEDdriver

(2) The button key driver

\Mini2440\SRC\DRIVERS\Userkey

(3) PWM control buzzer driver

\Mini2440\SRC\DRIVERS\PWM

(4) ADC (Analog to Digital Converter driver

\Mini2440\SRC\DRIVERS\Touch

Note: ADC and touch screen drivers actually in a same achieve file

(5) I2C driver

\Mini2440\SRC\DRIVERS\IIC

(6) RTC driver

\Mini2440\SRC\COMMON\Rtc

Note: driver's location is different, here follows the original directory structure of the BSP

(7) Serial port driver (includes three serial ports)

\Mini2440\SRC\DRIVERS\Serial

(8) Touch Screen driver

\Mini2440\SRC\DRIVERS\Touch

(9) USB driver

\Mini2440\SRC\DRIVERS\Usb

Description: Contains the USB Slave and USB Host (can connect USB mouse, keyboard, USB flash drives and other peripherals)

(10) SD card driver

\Mini2440\SRC\DRIVERS\SDHC

Note: Support high capacity SD card up to 32GB

(11)   DM9000 network interface card driver

\Mini2440\SRC\DRIVERS\dm9000

(12)   Audio driver

\Mini2440\SRC\DRIVERS\Wavedev

Note: The drive supports recording and playback

(13)   LCD driver

\Mini2440\SRC\DRIVERS\Display

(14)   Backlight driver

\Mini2440\SRC\DRIVERS\Backlight

Note: The backlight is only for switch (on or off), there is no regulatory role, mainly

hardware development board currently does not support backlight adjustment

(15)   CMOS camera driver

\Mini2440\SRC\DRIVERS\Camera